

IN THE CLAIMS

Please amend the claims as follows:

1.-18. (Canceled)

19. (Currently Amended) A capacitor comprising:
a first conductive capacitor plate of a first material;
a second conductive capacitor plate; and
a dielectric structure interposed between said first and second conductive capacitor plates,
wherein said dielectric structure includes a non-oxidized portion and an oxidized portion,
wherein the oxidized portion includes a second material, wherein the oxidized portion directly
contacts the second conductive capacitor plate, and wherein the oxidized portion comprises
titanium oxide.

20. (Currently Amended) A memory system comprising:
a monolithic memory device, comprising a capacitor, wherein the capacitor comprises:
a first conductive capacitor plate of a first material;
a second conductive capacitor plate; and
a dielectric structure interposed between said first and second conductive
capacitor plates, wherein said dielectric structure includes a non-oxidized portion and an
oxidized portion, wherein the oxidized portion includes a second material, wherein the oxidized
portion directly contacts the second conductive capacitor plate, and wherein the oxidized portion
comprises titanium oxide; and
a processor configured to access the monolithic memory device.

21.-79. (Canceled)

80. (Withdrawn, Previously Presented) The capacitor of claim 19, wherein the oxidized
portion further includes at least one additional metal alloyed with the titanium, and wherein the
additional metal is selected from the group consisting of strontium, barium, and lead.

81. (Previously Presented) The capacitor of claim 19, wherein the second conductive capacitor plate is formed from a material selected from the group consisting of polysilicon and metal.

82. (Canceled)

83. (Withdrawn, Previously Presented) The memory system of claim 20, wherein the oxidized portion further includes at least one additional metal alloyed with the titanium, and wherein the additional metal is selected from the group consisting of strontium, barium, and lead.

84. (Previously Presented) The memory system of claim 20, wherein the second conductive capacitor plate is formed from a material selected from the group consisting of polysilicon and metal.

85.-97. (Canceled)

98. (Withdrawn, Currently Amended) A capacitor formed by a process comprising:
forming an insulative layer overlying a substrate;
masking the insulative layer to define a region in which to fabricate the capacitor;
removing the insulative layer in an unmasked region to expose a portion of the substrate;
depositing a polysilicon layer overlying the insulative layer and the substrate and contacting the substrate;
removing portions of the polysilicon layer to expose an upper surface of the insulative layer;
depositing a metal layer to everly overlie the polysilicon layer, the metal layer comprising titanium;
contacting the metal layer with an electrolytic solution;
applying an electrical potential to the electrolytic solution and the metal layer;

oxidizing at least a portion of the metal layer to form a metal oxide comprising titanium to function as a dielectric structure; and

forming an electrically conductive layer overlying directly contacting the metal oxide.

99. (Withdrawn) The capacitor of claim 98, wherein the electrolytic solution is a basic solution.

100. (Withdrawn) The capacitor of claim 98, wherein the electrolytic solution is an acidic solution.

101. (Withdrawn) The capacitor of claim 98, wherein the electrolytic solution is a solution of one part NH₄OH to ten parts water.

102. (Withdrawn) The capacitor of claim 98, wherein the electrolytic solution is a 0.1 molar solution of HClO₄.

103. (Canceled)

104. (Currently Amended) A capacitor, comprising:

a first conductive plate serving as a first electrode of the capacitor;

a second conductive plate serving as a second electrode of the capacitor, the second conductive plate formed from a material selected from the group consisting of polysilicon and metal; and

a dielectric structure interposed between the first and second conductive plates, wherein the dielectric structure is an oxide of a metal layer overlying the first conductive plate, the oxide comprising titanium, and wherein the oxide of the metal layer directly contacts the second conductive plate.

105. (Currently Amended) A memory system, comprising:

a monolithic memory device comprising a capacitor, wherein the capacitor comprises

a first conductive capacitor plate,
a second conductive capacitor plate formed from a material selected from the group consisting of polysilicon and metal, and
a dielectric structure interposed between the first and second conductive plates, wherein the dielectric structure is an oxide of a metal layer overlying the first conductive plate, the oxide comprising titanium, and wherein the oxide of the metal layer directly contacts the second conductive capacitor plate.

106. (Withdrawn, Currently Amended) A capacitor comprising:

a first capacitor electrode comprising polysilicon;
a dielectric structure formed by oxidizing a metal layer overlying the first capacitor electrode to provide an oxidized portion comprising titanium; and
a second capacitor electrode formed from a material selected from the group consisting of polysilicon and metal, wherein the oxidized portion directly contacts the second capacitor electrode.

107. (Currently Amended) A capacitor comprising:

a first conductive capacitor plate of a first material;
a second conductive capacitor plate; and
a dielectric structure interposed between said first and second conductive capacitor plates, wherein said dielectric structure includes a non-oxidized portion and an oxidized portion, wherein the oxidized portion includes a second material, wherein the oxidized portion directly contacts the second conductive capacitor plate, and wherein the oxidized portion of the dielectric structure comprises titanium.

108. (Previously Presented) The capacitor of claim 19, further comprising at least one of a diffusion barrier layer and an oxidation resistant layer interposed between the first conductive capacitor plate and the oxidized portion of the dielectric structure.

109. (Currently Amended) A memory system comprising:
a monolithic memory device, comprising a capacitor, wherein the capacitor comprises:
a first conductive capacitor plate of a first material;
a second conductive capacitor plate; and
a dielectric structure interposed between said first and second conductive capacitor plates, wherein said dielectric structure includes a non-oxidized portion and an oxidized portion, wherein the oxidized portion includes a second material, wherein the oxidized portion directly contacts the second conductive capacitor plate, and wherein the oxidized portion of the dielectric structure comprises titanium; and
a processor configured to access the monolithic memory device.

110. (Previously Presented) The memory system of claim 20, further comprising at least one of a diffusion barrier layer and an oxidation resistant layer interposed between the first conductive capacitor plate and the oxidized portion of the dielectric structure.

111.-112. (Canceled)

113. (Withdrawn) The capacitor of claim 104, wherein the first conductive plate comprises polysilicon having a thickness of 200 to 400 Angstroms.

114. (Previously Presented) The capacitor of claim 104, further comprising at least one of a diffusion barrier layer and an oxidation resistant layer interposed between the first conductive plate and the metal layer.

115. (Withdrawn) The memory system of claim 105, wherein the first conductive capacitor plate comprises polysilicon.

116. (Previously Presented) The memory system of claim 105, further comprising at least one of a diffusion barrier layer and an oxidation resistant layer interposed between the first conductive plate and the metal layer.

117. (Withdrawn) The capacitor of claim 106, wherein the first capacitor electrode has a thickness from 200 to 400 Angstroms.

118. (Withdrawn) The capacitor of claim 106, further comprising at least one of a diffusion barrier layer and an oxidation resistant layer interposed between the first capacitor electrode and the metal layer.

119. (Withdrawn, Currently Amended) A capacitor structure formed on a substrate, comprising:

- a first conductive capacitor plate formed atop the substrate;
- a first metal layer formed atop the first conductive capacitor plate;
- a first metal oxide layer formed from the metal layer such that the remaining first metal layer forms part of the first conductive capacitor plate, the first metal oxide layer comprising titanium; and
- a second conductive layer formed atop the first metal oxide layer, wherein the second conductive layer directly contacts the first metal oxide layer.

120. (Withdrawn) The capacitor structure of claim 119, further including:

- a second metal layer formed atop the second conductive layer;
- a second metal oxide layer formed from the second metal layer such that the remaining second metal layer forms part of the second conductive layer;
- a third conductive layer formed atop the second metal oxide layer, wherein the first and second metal oxide layers and the second conductive layer form the dielectric structure of the capacitor and the third conductive layer serves as a second conductive capacitor plate.

121. (Withdrawn, Previously Presented) The capacitor structure of claim 119, wherein the first conductive capacitor plate comprises polysilicon.

122. (Withdrawn) The capacitor of claim 119, wherein the first metal layer is substantially completely oxidized to form the metal oxide layer.

123. (Withdrawn) The capacitor of claim 119, wherein the first metal oxide layer has a thickness of between 10 and 1000 Angstroms.

124. (Withdrawn) The capacitor of claim 119, wherein the first metal layer is alloyed with another material.

125. (Canceled)